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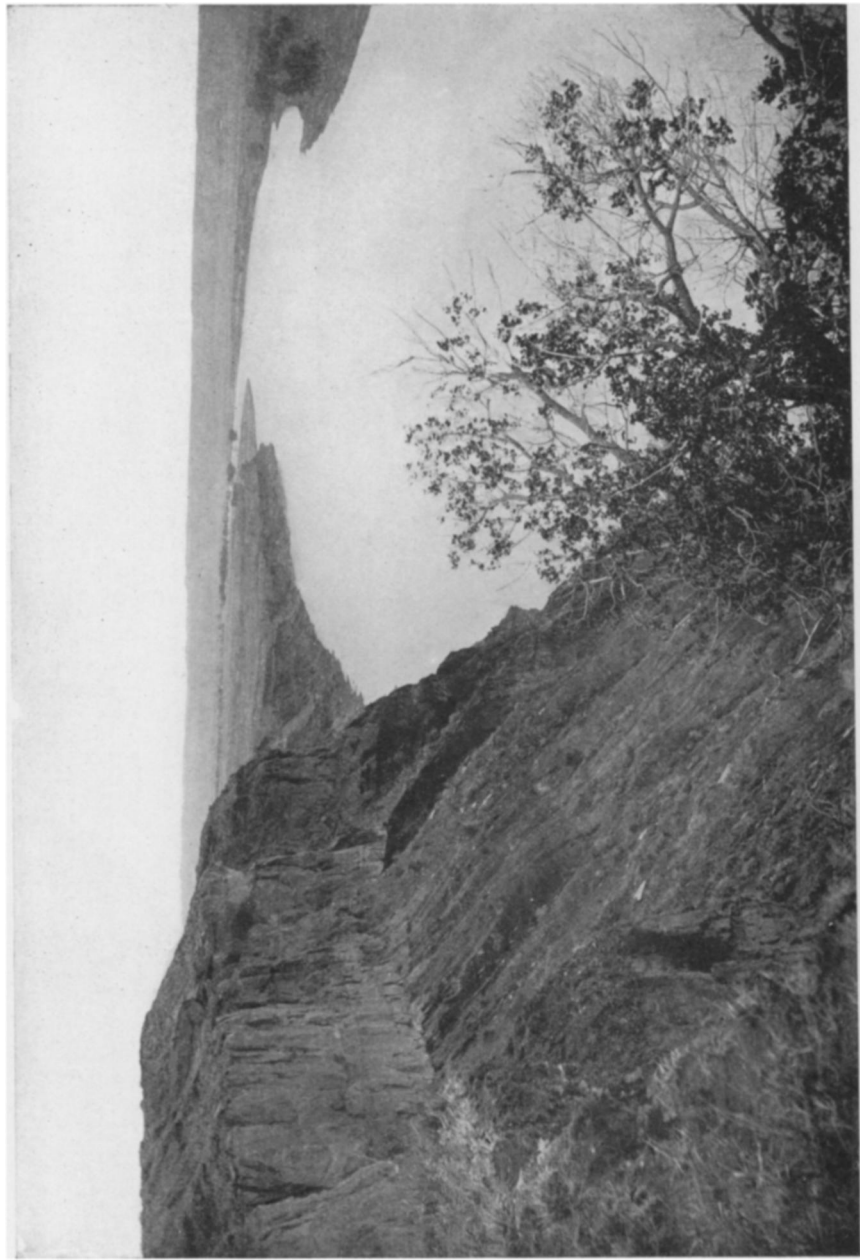
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NESTING SITE OF DUCK HAWK ON YELLOWSTONE RIVER.

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THE BIRDS OF CUSTER AND DAWSON COUNTIES, MONTANA.

BY E. S. CAMERON, F. Z. S. L., M. B. O. U.

Plates V-XII.

INTRODUCTION.

THE present list of birds known to occur in Custer and Dawson Counties, Montana, is the result of observation extending over a period of eighteen years and including almost every part of the area named. A few localities which I was personally unable to visit have been explored by my wife who is a keen observer of birds. I wish to take this opportunity of expressing my indebtedness to Mr. J. H. Price of Knowlton who has been familiar with eastern Montana since the eighties, and was at much trouble to send me information, skins, and notes, besides assisting my investigation in every possible way. Also to Mr. Dan Bowman for many interesting notes of especial value, as he was one of the pioneer settlers of Custer County. As far as I am aware, no list of birds of Dawson County, or any part of it, has hitherto appeared, but the late Captain Platte M. Thorne, U. S. A., published an excellent list, numbering 137 species, of the Birds of Fort Keogh, near Miles City (Custer County), in 'The Auk' for July, 1895, and upon this any subsequent list must necessarily be based.

Regarded geographically the area embraced by the two counties may be divided into river valleys, pine hills, rolling prairie and badlands, but from an ornithological standpoint, as will

presently appear, only two of these divisions deserve recognition, viz.: the pine hills and the prairie. The same physical conformation prevails throughout the country and may be described as a succession of high divides clothed with pines, which slope, more or less gradually, to large rivers.

Most of the intermediate country consists of rolling prairie, intersected by creeks fringed, as are the rivers, with cottonwoods, here and there relieved by a sprinkling of ash, box elder, and willow. In certain districts, however, irreclaimable badlands extend from the top of the divides downwards to the rivers, the most important tract in our area being that known as the Missouri Brakes on the river of the same name, to which I shall again refer. There are no mountains, properly so called, in either county, but Mountain Sheep Bluffs in Dawson County (the greater part of which is still unsurveyed), rise to 4,000 feet above sea level, and Glendive, the capital, has an elevation of 2,091 feet; while Maxwell Butte, on Mispah Creek, in Custer County, is 3,261 feet above sea level, and Miles City, the capital, 2,334 feet. Nor are there any lakes, properly so called, but the abundant rains of certain years form prairie ponds, often several acres in extent, which afford grateful resting-places to passing wild-fowl. Forks Lake, containing about 160 acres, on a fork of the Redwater River (north Dawson County) never becomes entirely dry. The total area of Custer County is 9,368,000 acres, or 14,637 square miles, and that of Dawson County is 13,280 square miles.

Owing to the fact that badlands are generally adjacent to pine hills, and often themselves conceal in their ravines and gulches a thick growth of pines and cedars, the avifauna of the two districts overlaps and is in most respects identical. The same remark applies to the prairie and river-valley regions, for the species frequenting the river bottom ascend the tributary creeks to the plains, and wherever the latter rise into pine hills which enclose wide parks, as in the neighborhood of Knowlton, there will prairie birds, like Curlews and Bartramian Sandpipers, be found nesting.

A few species, such as the Mourning Dove, Nighthawk, Arkansas Kingbird, Horned Lark, Meadowlark, Redpoll, Lark Sparrow, etc., are ubiquitous. Hence it is clear that faunal areas, in the

ordinary sense of the term, even as between prairie and pine-hills, do not admit of precise definition, although the lists made in the two regions plainly indicate a marked diversity in the species inhabiting them.

There are few indigenous birds in eastern Montana, and those of necessity are such as can support great extremes of temperature. In my own list of 190 species only 19 are permanent residents. They include the Sharp-tailed Grouse, Sage Grouse, Ferruginous Rough-leg, Golden Eagle, Prairie Falcon, Duck Hawk, Long-eared Owl, Western Horned Owl, Burrowing Owl, Hairy Woodpecker, Batchelder's Woodpecker, Desert Horned Lark, American Magpie, Piñon Jay, American Crossbill, English Sparrow, Northern Shrike, Slender-billed Nuthatch, and Long-tailed Chickadee. The remaining 171 species are either transient spring and fall migrants, summer visitors which nest here, or winter visitors which leave in the spring. Exhausted migrants are met with in most unusual situations. Mr. Lance Irvine, for example, has picked up a Coot on the open prairie, and seen a flock of Great Blue Herons resting in a like situation, while I have flushed a Sora from creeping cedar in the pine-hills. Warbling and Red-eyed Vireos, have been caught on my veranda, and Pintail Ducks have alighted just outside of it. Many other instances might be cited.

Both our counties belong to the so called 'plains' region of the west where ranching, or the raising of cattle, sheep, and horses, is the only industry. Rolling prairie is therefore the predominant type of country, sage-brush the characteristic plant, and the Sage Grouse, which everywhere follows the plant, the characteristic bird. This species finds a permanent home in the wilderness of pale green bushes which, albeit they wither to yellow brown in winter, retain their foliage, and thus afford both food and shelter to the bird throughout the year. Icy winds in winter sweep over the khaki-colored expanse, the sage tops thinly veiling the deep snow beneath; and, while under such conditions Sharp-tailed Grouse burrow into the drifts, the more hardy Sage Grouse seems quite comfortable — even in a temperature of 40° below zero (Fahrenheit).

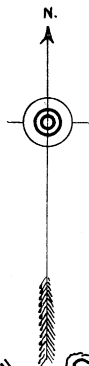
Many flowering plants adorn the prairie in summer, the most conspicuous being the triennial soapweed, whose tall stalks, cov-

ered with cream-colored bell-shaped blossoms, flourish in profusion on gravelly or sandy hills. Among less pretentious flowers are several kinds of lily, yellow daisies, blue hairbells, and quantities of purple vetch. During May, 1892, I travelled on horseback up the Tongue River from its mouth at Miles City to the Big Horn Mountains, a distance of 205 miles, returning by the same route in August, and obtaining thus abundant opportunity to observe the distinctive vegetation and bird-life of the prairie. On the return trip ranch thermometers registered the high temperature of 114° in the shade.

By far the greatest number of birds, both as regards species and individuals, are to be seen along the banks of the large rivers, but ornithological exploration in the badlands derives a peculiar charm from their extraordinary geological features and their intense solitude. Miles may be traversed with never a sign of man nor a sound more civilized than the Falcon's angry scream. The typical breeding birds of the badlands are the Golden Eagle (*Aquila chrysaëtos*), Prairie Falcon (*Falco mexicanus*), Duck Hawk (*Falco peregrinus anatum*), Say's Phoebe (*Sayornis saya*), American Magpie (*Pica pica hudsonica*), Cliff Swallow (*Petrochelidon lunifrons*), and Rock Wren (*Salpinctes obsoletus*). As previously stated, the most important tract of badlands is that known as the Missouri Brakes in Dawson County which borders the Missouri River between the mouths of the Big Dry and Mussellshell, extends to 65 miles long by 10 wide, or thereabouts, and is almost entirely composed of gumbo clay. Notwithstanding its generally arid character, large groves of fir, lodge-pole pine, and red cedar, are to be found under the main divide, which I have twice visited during extended hunting trips in the locality. The first time was during March and April, 1890, when it constituted a regular sportsman's paradise, being full of mule deer, mountain sheep, and grizzly bears. On account of the time of year, however, only the latter were hunted. On April 7 the migration of wild-fowl was at its height, and I have never since seen the Anatidæ so numerous as when camped near the Big Dry River at that date. A second expedition was made early in October, 1895, in company with Mr. J. H. Price, and on this occasion a list was made of the birds observed in the Missouri Brakes at that time. The characteristic

SKETCH MAP OF DAWSON COUNTY, MONT.

Scale, 12 Miles = 1 Inch.



LEGEND

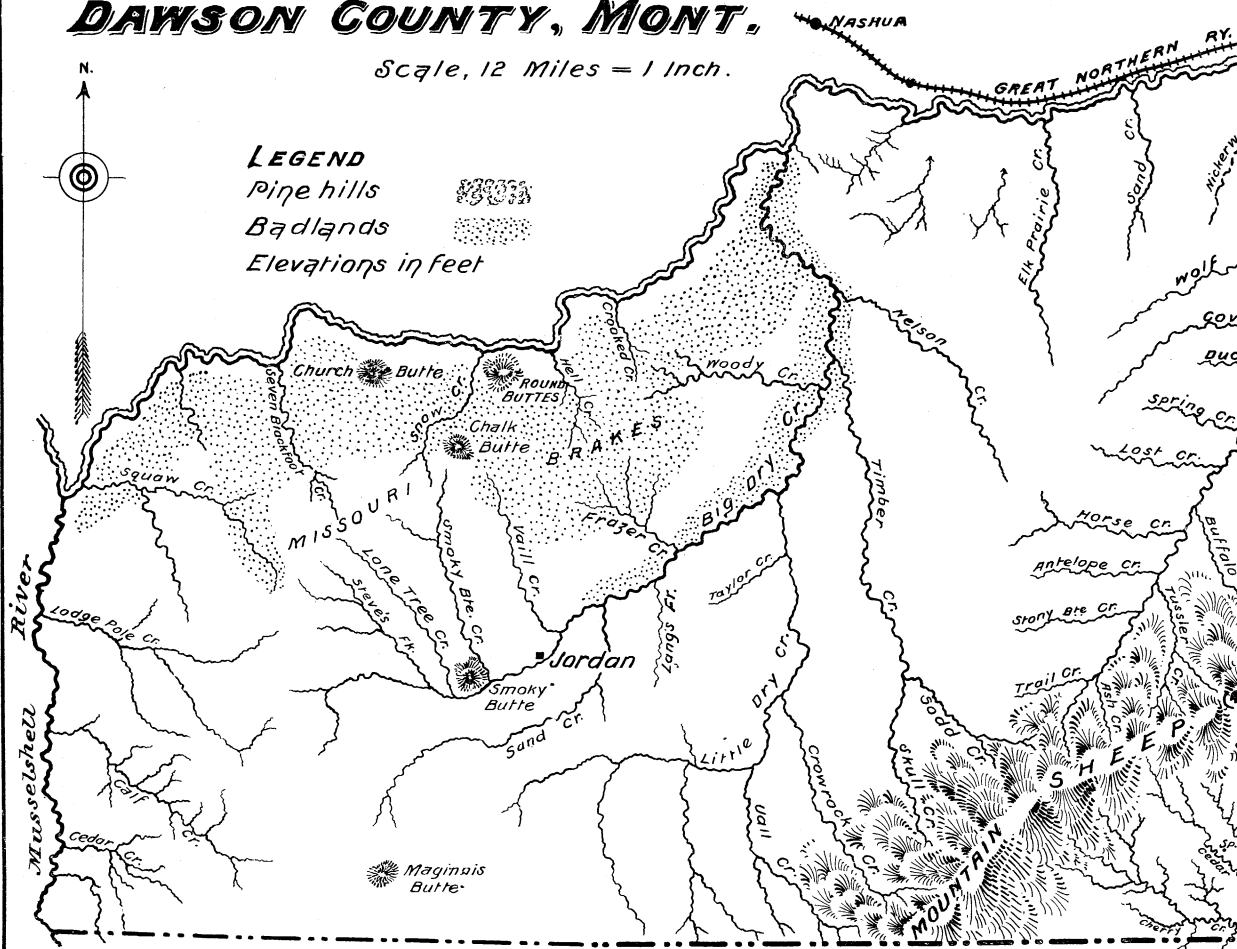
Pine hills

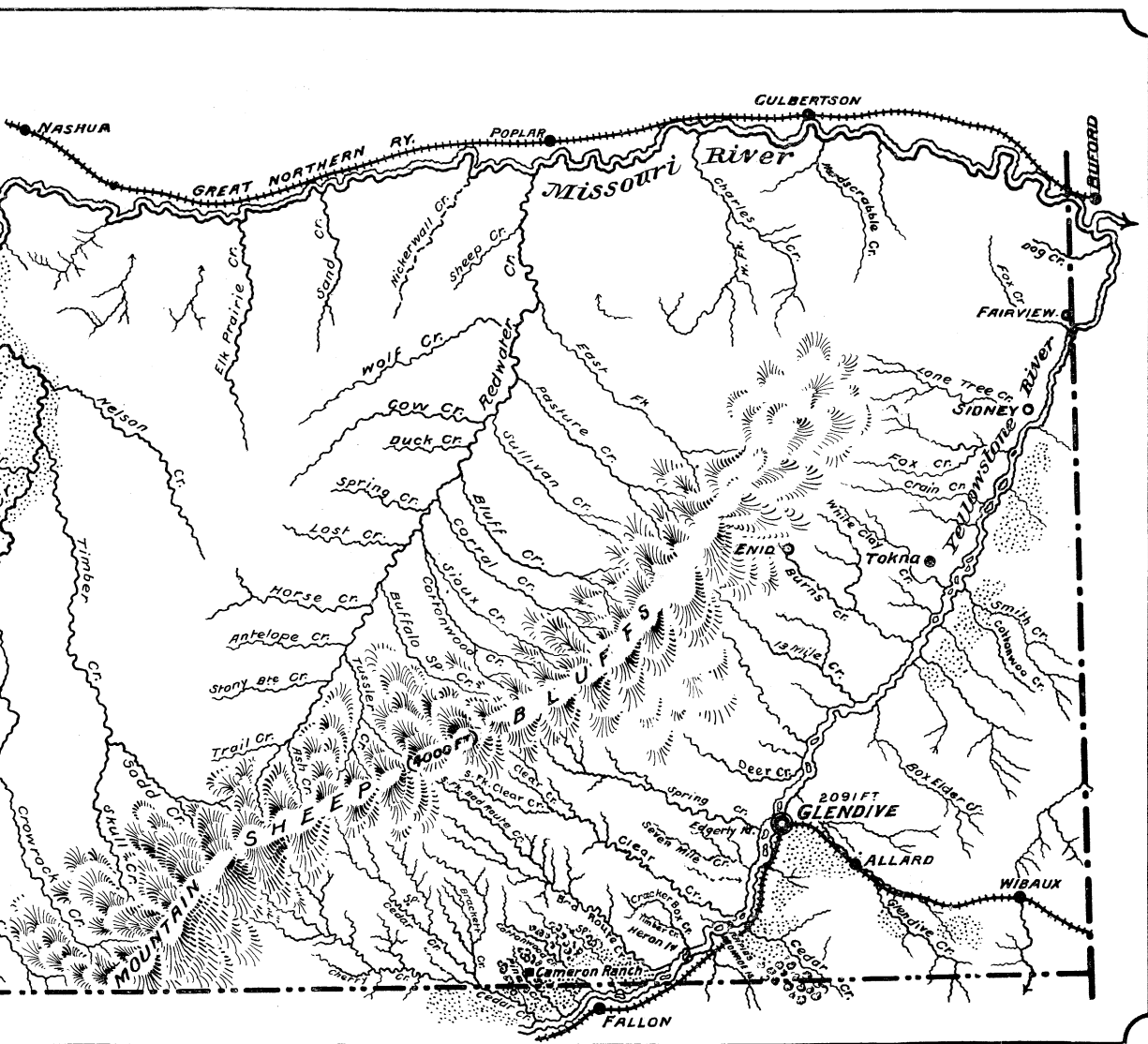


Badlands



Elevations in feet





LEGEND

Pine hills



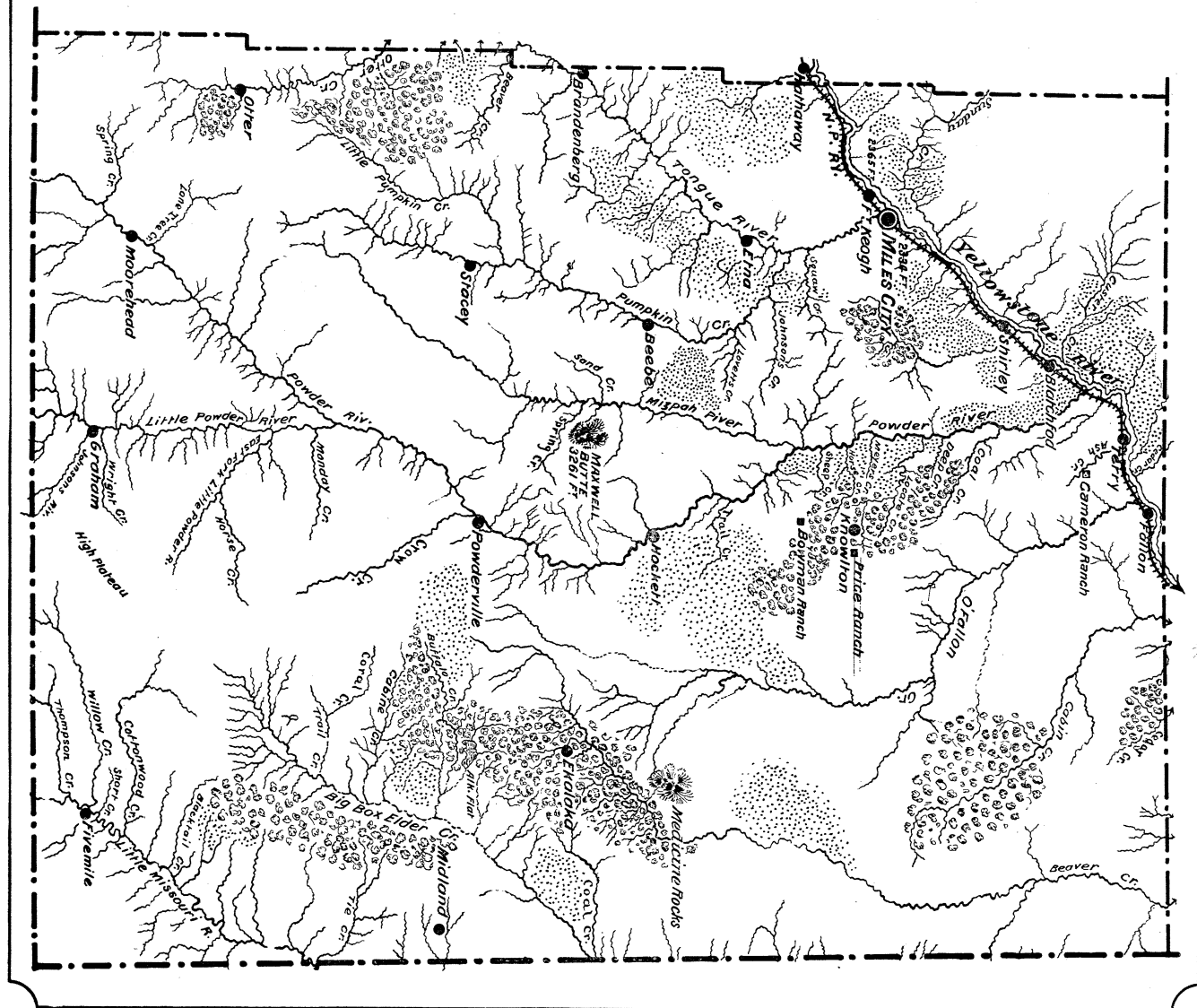
Badlands



Elevations in feet

SKETCH MAP OF CUSTER COUNTY, MONT.

Scale, 12 Miles = 1 Inch.



species were found to be the Slender-billed Nuthatch (*Sitta carolinensis aculeata*), Chickadee (*Parus atricapillus occidentalis*), and Townsend's Solitaire (*Myadestes townsendii*).

Another very wild range of badlands, commencing opposite Terry, extends along the north side of the Yellowstone River to a point about four miles west of the mouth of Custer Creek. I have explored these badlands many times, and have noted among other remarkable features a silicified tree bridging a ravine. Other smaller tracts of badlands occur on the Powder River and elsewhere.

In the badlands of the Yellowstone, despite their reputed aridness, there are surprising bursts of sporadic vegetation. Over the sombre clay walls and terraces the flowery month of June splashes a bright blaze of brilliant colors, as on a painter's palette — here a rich gamboge of yellow daisies, there the deep mauve of hyacinthine blooms, elsewhere the delicate carmine of clustering vetches, and the chaste white of Mariposa lilies. Yellow pines are most numerous and reach their greatest development around Ekalaka and Knowlton (Custer County). A pine covered area thirty miles long, extends from five miles east of Medicine Rocks to a point fifteen miles south of Ekalaka. About five miles south and east of the latter it becomes a regular forest; some of the trees are three feet in diameter, and attain a height of sixty feet before they are branched.

The widest belt of pines and cedars combined is formed by the impenetrable thickets on Cedar Creek (Custer County), which runs into the Yellowstone at Monroe Island Rapids. In places this belt is over two miles across. I built a rough shack and stable within these woods, where, in the early nineties, I was accustomed to go every winter for a few weeks to hunt deer. The thickets were simply alive with Bohemian Waxwings, which subsisted on cedar berries, and gyrated in thousands when disturbed from the high pines beneath which the red stained snow gave evidence of their familiar roosting places. In summer, among the characteristic birds which nest in the pine-hills, are Piñon Jays, Chipping Sparrows, Lazuli Buntings, Chickadees, and Mountain Bluebirds. My ranch in Custer County, five miles south of Terry, was a great haunt of Sharp-tailed Grouse and many other birds,

acres and acres of rose brush clothing the creek bottom while large patches of wild fruit trees were abundant on the hillsides. Under the taller ash and box elders spread a net-work of clematis, which intertwining with plum-trees and choke-cherries, overhung the smaller bushes, the whole forming an impenetrable covert, containing several springs of water while yielding its store of food to the birds. At one place so dense was the thicket, where it joined the north window of the ranch-house, that entry thereto was impossible save by using a fallen tree as a bridge.

Numbers of newly arrived migrants would work through this labyrinth from the north end until their further progress was barred by the window above mentioned. In this way many rare visitors were first observed from inside the room, such as Townsend's Warbler, White-crowned Sparrow, Olive-backed Thrush, etc.

My wife used to thread blue-bottle flies and hang them outside the glass, for the pleasure of watching the Long-tailed Chats and Redstarts, which would suddenly appear and pull them off the string. Many birds nested within these thickets; some of which, to the best of my knowledge, did not do so elsewhere in the county, such as the Black-billed Cuckoo and Cedar Waxwing.

In 1902, I built a ranch in Dawson County amidst pines four and a half miles to the north of Fallon, on the Northern Pacific Railway, and moved over there. The house is situated below some springs surrounded by pines and cedars where I have placed three water-troughs. All species of birds inhabiting the pine hills of eastern Montana visit them to bathe and drink. It is indeed a charming sight in summer to watch the flocks of Crossbills, Piñon Jays, and Goldfinches descend to the water, while in winter such numbers of Rosy Finches come, that the sound of their wings resembles the wind in the pines. Even mule deer from adjacent badlands drink regularly here, passing in early dawn within thirty-five yards of the house. This shows what may be accomplished where the peace of nature is never disturbed.

LIST OF SPECIES.

1. **Colymbus nigricollis californicus**. AMERICAN EARED GREBE.— Not common. A young male was shot by the ferryman at Terry on October 2, 1904, when I kept the skin. Mr. J. H. Price obtained an immature example in summer plumage on Locate Creek and made a skin. I saw two adults floating down the Yellowstone on May 7, 1905.

2. **Podilymbus podiceps**. PIED-BILLED GREBE.— Not common. Sixteen seen May 23, 1904, and eight May 31, 1904. Their manner of diving backwards with head up stream was very noticeable.

3. **Larus argentatus**. AMERICAN HERRING GULL.— Tolerably common, flying up or down the Yellowstone in the fall.

4. **Larus delawarensis**. RING-BILLED GULL.— Tolerably common. Occurs in spring and fall on the Yellowstone. An adult specimen was shot by the ferryman at Terry, May 31, 1906.

5. **Larus philadelphia**. BONAPARTE'S GULL.— Rare. A Bonaparte's Gull in first plumage was shot by Mr. Charles Mackay on August 12, 1904. It was flying over a small lake at his ranch twenty-two miles from Terry. An adult observed by me flying down the Yellowstone on July 31, 1905.

6. **Xema sabinii**. SABINE'S GULL.— Rare. An immature example of this gull was shot on the Yellowstone by the ferryman at Terry, September 23, 1904. He said he had seen about twenty-five others of this species on the previous day.¹

7. **Hydrochelidon nigra surinamensis**. BLACK TERN.— Erratic migrant in both counties. Ten seen June 8, 1895; three August 6, 1898; two July 2, 1905; one May 26, 1906; and two May 30, 1906. Mr. J. H. Price has also observed it in his vicinity (Knowlton). Extraordinarily tame when hovering over prairie ponds.

8. **Phalacrocorax dilophus**. DOUBLE-CRESTED CORMORANT.— Rare. A single bird was seen by my wife sitting behind a rock, at the edge of the Yellowstone, on October 16, 1904. When she was quite close it flapped into the water.

9. **Pelecanus erythrorhynchos**. AMERICAN WHITE PELICAN.— Rare. Mr. Dan Bowman is positive that a pair of pelicans nested on a small wooded island in the Powder River near the mouth of Locate Creek during the summer of 1884. He constantly saw both birds flying there, when camped on the river during the months of June and July, and later one only (as he supposed the male), fishing along the river bank. Unfortunately he did not investigate. Peter Lorensen shot two specimens near Miles City on September 5, 1898. Mr. A. S. Wiley shot a pelican on the Yellowstone in 1903.

10. **Merganser americanus**. AMERICAN MERGANSER.— Rare. On No-

¹ See Auk, Vol. XXII, p. 76, 1905.

vember 12, 1904, a pair of adult males flew low over the ferry boat, at Terry, and alighted on the Yellowstone when I was crossing it.

11. **Merganser serrator.** RED-BREASTED MERGANSER.—Rare. On April 7, 1890, several were seen on a muddy reed-grown lake, in a mixed multitude of other wild-fowl, near the Crow Rock, Dawson County. On February 25, 1902, I saw five mergansers flying which I took to be of this species.

12. **Lophodytes cucullatus.** HOODED MERGANSER.—Rare. A female or immature male of this species frequented a pool on my ranch, near Terry, for several days at the end of June, 1898. When I approached close it showed anxiety by elevating the crest and wings but did not fly away. I observed another on the Yellowstone May 7, 1905. Captain Thorne saw about twenty Hooded Mergansers daily from June 14 to July 17, 1889.

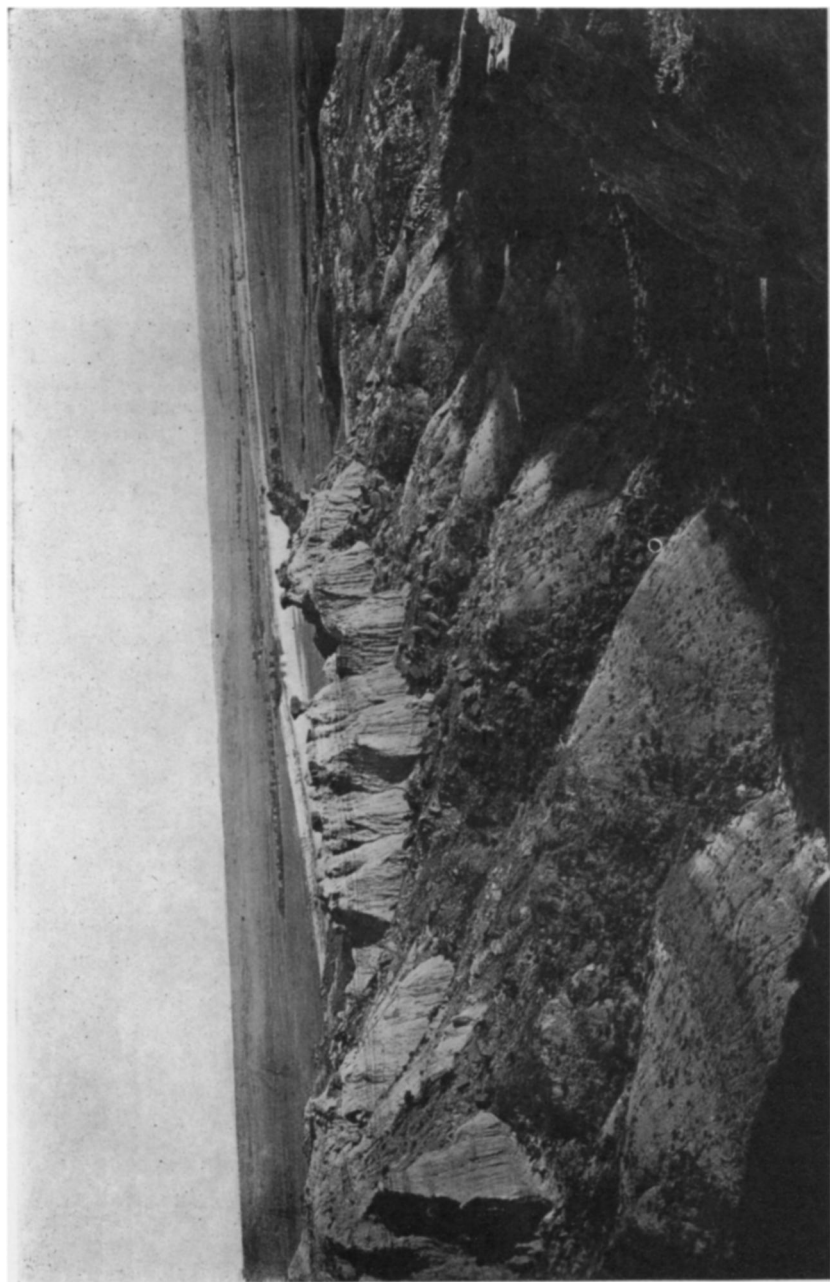
13. **Anas boschas.** MALLARD.—Common on migration. A good many pairs used to breed in Custer County in the early nineties but I have not heard of a nest for many years. Mallards still nest in Dawson County, on Cow Creek, a west fork of the Redwater River.

14. **Chaulelasmus streperus.** GADWALL.—Not uncommon on the Yellowstone. Transient. Numerous on April 7, 1890, near the Big Dry, Dawson County, when I shot two adult males. Mr. J. H. Price has also shot these ducks.

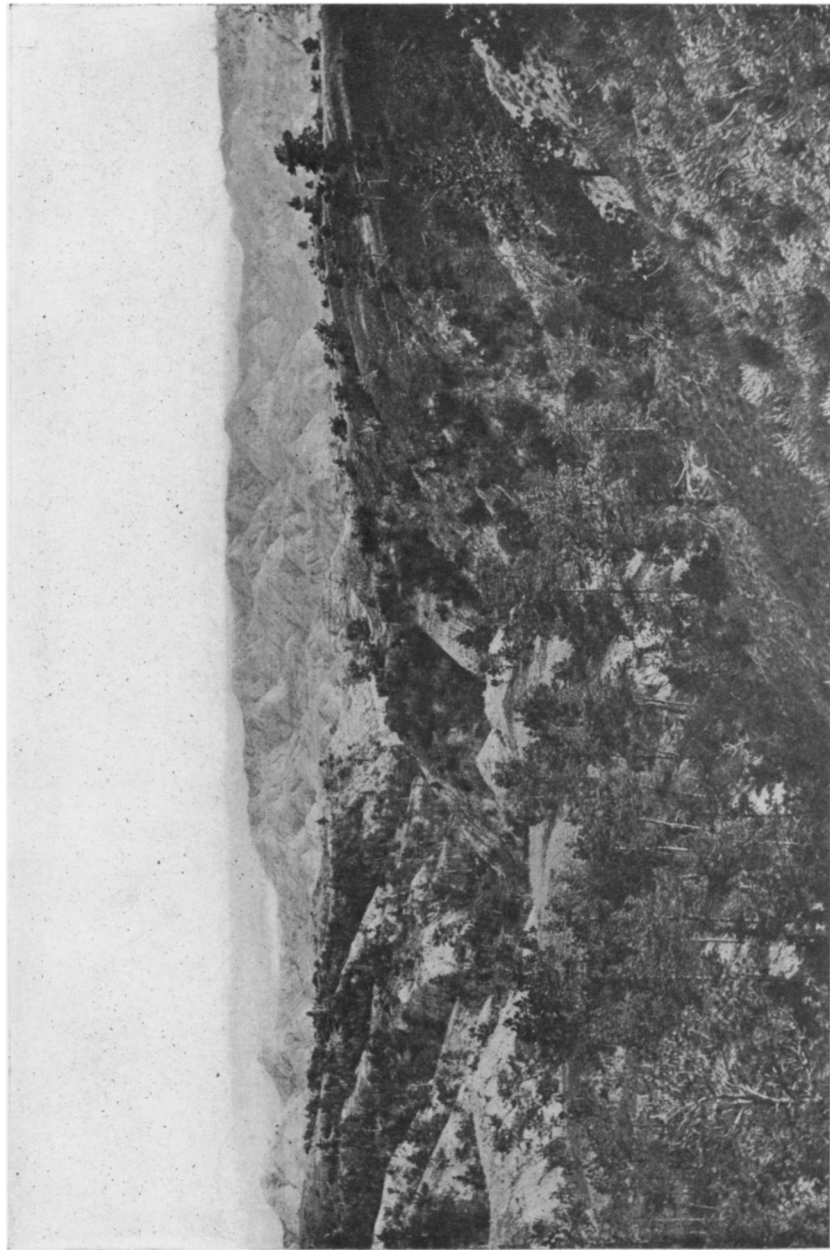
15. **Mareca americana.** BALDPATE.—Not uncommon on the Yellowstone. Transient. I have shot widgeon in both Custer and Dawson Counties. Mr. J. H. Price has also obtained them at Locate Creek, Custer County.

16. **Nettion carolinensis.** GREEN-WINGED TEAL.—Abundant on migration. The bags of wild fowlers made here consist chiefly of this duck and the next. For two days in September, 1892, I observed both species of Teal flying down Tongue River in very large flocks. At that time the Hon. O. H. Wallop, who was with me, killed forty-eight in about two hours' shooting each afternoon as the birds flew past. On Sept. 22, 1906, Mr. H. B. Wiley and Mr. C. F. Hedges (of Miles City) killed 80 teal of both kinds, in about equal numbers, between daylight and 8 A. M. on the Yellowstone. Three years previously Mr. H. B. Wiley and Mr. Al. Jordan shot 61 ducks between daylight and 12 o'clock, noon, on the Yellowstone, which were almost all teal. Mr. J. H. Price has also shot numbers of both kinds on Locate Creek, Custer County. Mr. Dan Bowman has seen the nests and young of this species on Fallon and Beaver Creeks, Custer County, and Mrs. W. S. Haley has seen the young on Taylor Creek, Dawson County. Green-winged Teal breed regularly on Cow Creek in Dawson County.

17. **Querquedula discors.** BLUE-WINGED TEAL.—Common everywhere during migration. While it is certain that these ducks breed on islands of the Yellowstone, as pairs may be seen throughout the summer, I have never actually discovered a nest. On September 27, 1904, a Blue-winged



BADLANDS ON THE YELLOWSTONE RIVER, MONTANA.



PINE HILLS AND BADLANDS ON YELLOWSTONE RIVER AT JUNCTION OF COTTONWOOD CREEK,
DAWSON COUNTY, MONTANA.

Teal was killed by striking against the wire cable of the ferry boat at Terry. On May 18, 1905, in a ride down the Yellowstone from west side of Fallon to Conlin (7 miles) four hundred and fifty ducks were examined and counted through binoculars. Of these twelve were Gadwall, six Widgeon, six Mallard, the remaining four hundred and twenty-six being composed of Shovellers and Blue-winged Teal.

18. *Spatula clypeata*. SHOVELLER.—Common, arriving about end of March or beginning of April, associating with other ducks, chiefly Pintail, Green-winged and Blue-winged Teal. Many remain all the summer and frequent the unsheltered prairie ponds. I have seen them as late as the middle of July in these exposed situations, when they are tame and unsuspicious, but I have not found a nest. When a party of Shovellers are feeding on a prairie lake the adult drakes have a curious habit of constantly raising themselves in the water by balancing on their tails.

19. *Dafila acuta*. PINTAIL.—Common but transient. According to my records, kept since 1889, one of the commonest ducks on the spring migration. Pintail never remain long, even when unmolested, and on this account are seldom shot. While reported from most parts of both counties they prefer alighting near the large streams, and Mr. J. H. Price has never seen them in his locality (Knowlton). Terry flat is a favorite resting place. On my return trip from the Missouri Brakes, in April, 1890, when hosts of wild-fowl were seen, the Pintail outnumbered the others and were numerous on the Powder River where I lived.

I have several times seen a flock of these graceful ducks arrive at close quarters. Although much larger than Green-winged Teal, their light and graceful evolution resemble the latter, when, attracted by water, they swoop down to it as if to settle, but again shoot upwards. If satisfied that there is no danger they straggle into the pool, uttering a very soft low quacking, and immediately on arrival begin washing, playing, feeding, and walking about.

Mr. J. Alex. Fraser (of Glendive) informs me that he saw about a thousand migratory Pintails, in different bunches, on one day of September, 1906, at Al. Stillson's ranch on Cow Creek, Dawson County, where some of these ducks breed and are protected by the proprietor.

20. *Aythya americana*. REDHEAD.—Not common. Occasionally observed on Yellowstone; thirty seen September 26, 1903. Mr. J. H. Price has twice seen Redheads on the smaller creeks. Mr. Dan Bowman has seen them "once or twice."

21. *Aythya affinis*. LESSER SCAUP DUCK.—Tolerably common. Scaup are fond of frequenting the reservoirs of J. B. Kempton, near Terry, four miles from Yellowstone. Twenty-three seen on Yellowstone May 7, 1905.

22. *Clangula clangula americana*. AMERICAN GOLDEN-EYE.—Not common. Occasionally seen on Yellowstone. Twelve haunted the vicinity of the Fallon ferry for some weeks during October, 1903. Thirty observed flying up Yellowstone September 26, 1904, and ten seen flying down October 19, 1906.

23. **Charitonetta albeola.** BUFFLE-HEAD.— Captain Thorne records this duck as rare. I have not noticed it. Mr. H. B. Wiley (of Miles City), who has had considerable experience of duck shooting on the Yellowstone informs me (*in lit.*) that he has never seen it.

24. **Somateria dresseri.** AMERICAN EIDER.— Mr. Charles Freer of Glendive assured me that an Eider Duck was shot there in 189? and identified by a Norwegian.

25. **Erismatura rubida.** RUDDY DUCK.— Captain Thorne mentions a flock of about forty observed April 21, 1889. I have not seen it but Mr. H. B. Wiley has shot a few of this species on the Yellowstone.

26. **Chen hyperborea.** LESSER SNOW GOOSE.— Rare. Transient. April 7, 1890, on Big Dry River, Dawson County, several seen. In spring of 1892 on Powder River, three seen. One of these was wounded by Mr. E. Coggshall with a rifle and lingered on the river but was not secured. November 12, 1903, eight seen flying south. September 12, 1904, eight flew within gunshot of the ferryman's house at Terry.

27. **Chen rossii.** ROSS'S SNOW GOOSE.— Captain Thorne killed a goose of this species on April 25, 1892.

28. **Branta canadensis.** CANADA GOOSE.— Common on migration. Very few geese breed here now, compared to the numbers that did so formerly, in the tops of broken tree-trunks, in hollows of partly decayed trees on ledges of precipitous cliffs, and the islands of rivers. In 1892, about one hundred goslings were hatched on the Lower Powder River alone. Here, in 1890, I was shown two goose nests in the high branches of cottonwoods, and, during June, 1893, a goose sat in a like situation at Jack Selby's lambing camp on Powder River.

Although in my experience and that of Mr. Dan Bowman, geese generally repaired the deserted nests of Swainson's Hawk, I know of two authentic instances when they were observed to build the entire nest for themselves amidst the branches.

When nesting in trees the goose carries her young on her back, like the Eider Duck from the rocks in the Orkney Isles.¹ In the late nineties a goose nested every year in a hollow cottonwood by the Yellowstone on what is now my land. The nest was about six feet from the ground and composed almost entirely of down and feathers from the goose's own body.

Mrs. A. Smith of Fallon hatched eight eggs from this nest under a hen and kept the goslings for two years. She informed me that if two clutches of eggs were removed the goose would, nevertheless, lay a third set. For four years (1903-06) a pair of geese reared a brood near this place and the young were seen by me and other observers. Although the nest was undoubtedly on the ledge of a vertical cut bank above the Yellowstone it was not discovered until June 1, 1906. At this time the goose, after laying eight eggs, had deserted it, on account of a landslide which had

¹ See 'A Fauna of the Orkney Islands' by Harvie-Brown and Buckley, who published my notes on this subject.

partially covered up the nest. The average date for the spring arrival of the Canada Goose at Terry is March 27.

29. ***Branta canadensis hutchinsii***. HUTCHINS'S GOOSE.—Rare. On October 4, 1903, twenty of these small geese flew low over me as I waited on the north bank of the Yellowstone for my wife who was being conveyed across by the ferryman. All obtained a good view.

30. ***Olor buccinator***. TRUMPETER SWAN.—Rare. About May 1, 1884, Mr. Dan Bowman saw ten or twelve swans resting on the Powder River just after sunrise. On October 27, 1905, an adult male Trumpeter Swan was shot by a boy on the Yellowstone at Tusler, near Miles City.

31. ***Botaurus lentiginosus***. AMERICAN BITTERN.—Not common. Occurs regularly on migration.

32. ***Ardea herodias***. GREAT BLUE HERON.—Common in both counties.¹ (Plate VIII, Fig. 1.)

33. ***Grus canadensis***. LITTLE BROWN CRANE.—An irregular fall migrant occurring in flocks of from ten to one hundred and fifty. This is the common Sandhill Crane of this region, *Grus mexicana* being much rarer. On September 24, 1894, a large flock hovered for some time above my ranch house in Custer County, with the intention of alighting, when I could not afford time to watch them. In September, 1898, a regular invasion of southward bound flocks took place at Terry. The inhabitants pursued them with every description of weapon but only one was shot — by J. C. Braley, with a rifle at three hundred yards. When fired at with a rifle the birds would fly only about half a mile and again alight, so that the fusillade could be continued at intervals. The only possible way of obtaining specimens is from concealment in the corn fields which they frequent. The cranes always flew low, generally within shot from the ground of a heavy shoulder gun, and in a straggling manner, although during migration they rise to a great height. They continued to arrive in the neighborhood of Terry for three weeks (until October 10) when all had left excepting a small flock. If undisturbed the cranes fed in the morning and evening, strongly recalling turkeys in general behavior; their stately manner of walking and drooping tertiary plumes causing them to present a striking appearance.

34. ***Grus mexicana***. SANDHILL CRANE.—Rare. May, 1892, one caught with a fish hook, baited with a frog, by Oliver Van on Fallon Creek, as he informed me. At that time Sandhill Cranes were reported numerous in that locality. September 22, 1893, flocks were seen on Powder River, which ran dry and the birds were attracted by the stranded fish. Mr. Dan Bowman, who was familiar with these birds in Missouri and Nebraska, has only seen them twice in Montana.

35. ***Rallus virginianus***. VIRGINIA RAIL.—Captain Thorne records a male killed August 10, 1888.

¹ See Cameron, Nesting of Great Blue Heron in Montana. Auk, Vol. XXIII, 252.

36. **Porzana carolina.** SORA.—Tolerably common. One killed against telegraph wire (Terry), September 12, 1901. Another impaled on barbed wire fence (Terry), September 7, 1903. My grayhounds have flushed it from sage-brush, and I have seen it so tame on the spring migration that at first it might have been caught by the hand. There is a small colony nesting in a marsh about two miles east of Terry. I rode there on June 18, 1898, and found the nests which were almost in the water of a grass grown pool, difficult to approach. Two contained thirteen and five eggs respectively. Their owners when disturbed creep about in the adjoining long grass and rose brush.

37. **Fulica americana.** AMERICAN COOT.—Tolerably common. Breeds. In October, 1904, a coot in an exhausted condition was picked up on the prairie by Mr. Lance Irvine, which he conveyed to the ranch kitchen where it soon recovered and was liberated.

38. **Phalaropus lobatus.** NORTHERN PHALAROPE.—Occasional migrant, usually in small numbers. On May 21, 1899, an extraordinary invasion of phalaropes occurred at my ranch in Custer County, six miles south of Terry, when examples of both these species and the next continued to arrive in greater or less numbers until the end of the month. At first the Red-necks predominated, and Mr. H. Tusler, whose ranch adjoins mine on the south, and who was the first to observe their advent, brought me three specimens of *Phalaropus lobatus* on the date above mentioned, shot, as he informed me, out of at least three hundred birds, which included (as I subsequently learned) a few of *Steganopus tricolor*. All the birds were swimming about in shallow lakes, formed by the recent rains, on the prairie. The relative numbers of the two species were subsequently reversed, for, the main flight of Red-necks having passed, only a few were afterwards seen sprinkled among the Wilson's Phalaropes, which continued to arrive daily in considerable flocks. Both species frequented the temporary ponds formed by the abundant rains in the depressions of grass-lands, but seemed to shun the regular creeks and water-holes altogether. At the moment of alighting they were so thickly disposed that a large number might have been killed by one shot, but immediately after reaching the surface of the water they scattered in all directions over the pond. The Wilson's Phalaropes, both when feeding and when disturbed and circling on the wing, constantly uttered a low croaking, which at close quarters might be compared to the much louder note of the Sandhill Cranes, or, at a distance, to the faintly heard barking of a dog. On the other hand, I have heard them give a shrill and totally different call of indecision or satisfaction on their first arrival, when hovering above a pool. Both species gave the impression of extraordinary activity as they fed greedily on a species of gnat which swarmed close to the surface of the water. To catch these gnats they swam about with incredible swiftness moving their necks from side to side, or backwards and forward, incessantly. In every flock of Wilson's Phalaropes the females greatly outnumbered the males.

The stomachs of the phalaropes examined contained minute stones, grass, and the black gnats above alluded to, mashed to a pulp. The eggs in the ovaries of the females were extremely small, not much larger than pin-heads; in only one was there an egg the size of a pea. (Condensed from 'The Ibis' for January, 1900, page 67.)

39. *Steganopus tricolor*. WILSON'S PHALAROPE.—Occasional migrant. See above.

40. *Recurvirostra americana*. AMERICAN AVOCET.—Uncommon spring migrant. In the spring of 189? two specimens were obtained on Powder River at the ranch of Mr. William Ferdon and are now in his possession.

On or about May 1, 1904, eleven avocets alighted in the mud of the north shore of the Yellowstone between Terry and Fallon. Mrs. W. S. Haley, wife of a ranchman living on the river bank, shot an adult female which she gave me.

On May 7, 1905, I watched, through binoculars, a flock of twenty-two avocets on the Yellowstone near Terry for a considerable time. The avocets appeared anxious to leave but were afraid to do so as a pair of Peregrines wheeled overhead. The former flew in low circles over the river, and, uttering shrill cries, alighted in deep water swimming until they could wade. Many were in immature plumage while others had a complete cinnamon neck and head. On May 16, 1906, I saw an avocet in splendid plumage at Mr. W. S. Haley's dam.

41. *Gallinago delicata*. WILSON'S SNIPE.—Tolerably common. Mr. J. H. Price informs me that it breeds, and he has seen the downy nestlings at his ranch on Locate Creek. A few birds remain during the winter.

42. *Actodromas maculata*. PECTORAL SANDPIPER.—Rare. Mr. J. H. Price gave me one of a pair of Pectoral Sandpipers which he shot while duck-shooting in a snow-storm on October 18, 1905. Although an ardent wild-fowler, whose Montana experience dates back to the eighties, Mr. Price had never before met with this species but identified it by means of Chapman's 'Color Key.' Three days later, on October 21, I saw a Pectoral Sandpiper at the edge of J. B. Kempton's reservoir near Terry.

43. *Actodromas bairdii*. BAIRD'S SANDPIPER.—Captain Thorne mentions this bird as rare. I have not seen it.

44. *Actodromas minutilla*. LEAST SANDPIPER.—Irregular migrant. Numerous at the time of the invasion of Phalaropes, beginning May 21, 1899, and consorting with them.

45. *Ereunetes pusillus*. SEMIPALMATED SANDPIPER.—Captain Thorne records this sandpiper as "Common in spring." I have not come across it.

46. *Limosa hæmastica*. HUDSONIAN GODWIT.—Rare. A female Hudsonian Godwit in transition plumage was shot by George Tusler at his brother's ranch near Terry, on May 10, 1899, and brought to me for identification. This was in the spring of the memorable flight of waders described in 'The Ibis' for January, 1900. The skin was sent to Professor

M. J. Elrod of the University of Montana. I saw a godwit on April 7, 1890, near the Crow Rock, Dawson County, but could not ascertain the species.

47. **Totanus melanoleucus.** GREATER YELLOW-LEGS.—Not common like the next. I saw numbers on Tongue River in the fall of 1892. One shot on Powder River in the fall of 1889.

48. **Totanus flavipes.** YELLOW-LEGS.—Common in fall.

49. **Helodromas solitarius.** SOLITARY SANDPIPER.—Common in fall.

50. **Symphemia semipalmata inornata.** WESTERN WILLET.—Irregular migrant. May 25, 1902, a flock of eleven willets alighted near the Terry ferry boat and George Tusler (deputy sheriff) killed an adult male with his revolver. The remaining ten uttered loud shrill cries but did not go far away. May 27, 1903, six willets were seen at the edge of the Yellowstone. September 5, 1903, when my wife and I were in a buggy, seven willets flew up the road towards us and alighted at a waterhole half a mile from Terry. September 8, 1903, we saw nine willets standing in the Yellowstone. Mr. J. H. Price has never met with this bird and Captain Thorne reports it as "rather rare in spring. About twelve seen in all."

51. **Bartramia longicauda.** BARTRAMIAN SANDPIPER.—Common, arriving the middle of May. These sandpipers are nowhere so abundant in Custer County as on the big prairie flat, some twenty-five miles across, which extends from about four miles south of Terry to the pine hills. Numbers breed here, and two or three pairs bred annually upon my ranch in Custer County or that of Mr. H. Tusler adjoining, which mark the northern boundary of this plain. The birds made no nest but laid four eggs in the center of a tussock of grass, which are invisible from outside, and above the level of the ground upon the pressed down herbage. In one instance the sitting bird was so tame that she remained only two feet from her eggs when flushed and would peck at an extended forefinger. Nestlings are seen early in July.

The Bartramian Sandpiper appears less numerous in Dawson County.

52. **Actitis macularia.** SPOTTED SANDPIPER.—Common. Breeds along the Yellowstone, as I have seen the young birds but never happened actually to discover a nest. On May 18, 1905, counted twenty Spotted Sandpipers along the Yellowstone shore.

53. **Numenius longirostris.** LONG-BILLED CURLEW.—A very common summer visitor, arriving about the middle of April. Curlews nest all over the prairie and in the fenced pastures of ranches, the young being all hatched out before the middle of June. Eggs have been found as early as the first week in May. Curlews lay four eggs on the dry open uplands, in a hollow of the plain lined with dried grass; they are difficult to find unless a flock of sheep or bunch of horses are driven over the ground which force the sitting birds from their nests. The incubating curlews will allow horses to all but tread upon them, and they look so like "buffalo chips" as to be easily mistaken for them at a little distance. If the female

runs along the ground with humped back and slightly elevated wings she has eggs close by; if, on the other hand, she flies towards and around the intruder screaming vociferously, the young are hatched out and concealed in the vicinity. On their first arrival and during the nesting season, when they are usually met with in pairs, curlews are exceedingly fearless but as soon as the young can fly (at the end of July), they collect into large flocks, prior to migrating, which may contain a hundred birds in each. They are then shy and difficult of approach but as far as I am aware nobody ever tries to shoot them here. (Plate VIII, Fig. 2.)

Curlews feed chiefly on grasshoppers, but there is an abundance of beetles and grubs for them before the first named mature, about the middle of June. I have seen the nesting curlews make flying attacks at Swainson's Hawk and the Marsh Hawk with their long bills, just as they drive away Richardson's Skua in the Orkney Islands.¹

54. **Charadrius dominicus.** AMERICAN GOLDEN PLOVER.—Occasional fall migrant. On September 9, 1896, I saw a flock of thirty or more Golden Plover on a bare flat near my ranch in Custer County. I remained motionless and they wheeled around my horse within easy shot. On the 16th of the same month, at the same place, I observed a small flock of fifteen birds which crouched to the ground as I rode up to them. They seemed very tame and only flew a few yards. On September 23, I again saw eight birds in the same locality. Their call is similar to that of the European form.

55. **Oxyechus vociferus.** KILLDEER.—Abundant. One of the earliest summer visitors, arriving at the end of March. Killdeer are very tame and confiding and will rear young close to ranch buildings, although a stony slope near water is a favorite nesting site.

56. **Podasocys montana.** MOUNTAIN PLOVER.—A regular summer visitor, but scarce. Two or three pairs breed annually on the prairie dog towns in the vicinity of Terry. Their eggs are very hard to find, but I have seen an egg as early as May 23. The birds spend most of their time on the ground, where they run with incredible swiftness, fully twice as fast as a Killdeer, which alone would always attract attention to them. If forced to rise these plover fly very low, and run for some distance upon alighting, when they will allow themselves to be pressed closely before taking wing again. When disturbed they have a curious habit of collapsing, or shrinking into themselves, and stretching their bodies to the full height alternately. On June 15, 1898, I was out with three grayhounds looking for a coyote when I saw a pair of these plovers in the center of a prairie dog town. I at once began to look systematically for a nest, walking in circles, starting from my horse, which stood wherever he was left, the three dogs lying beside him. Having searched in this manner for nearly three hours without result, or even seeing either plover again, I was beginning to lose heart when a single plover again appeared showing

¹ See Harvie-Brown and Buckley, A Fauna of the Orkney Islands, p. 225.

extreme agitation at my approach. Running with a trailing wing she would fall over and lie struggling on the ground, which induced the dogs to chase her away, and convinced me that she had young close by. I again made the dogs lie down by the horse and began to search in small, gradually increasing circles, but not without opposition on the part of the distracted parent which sought by feints and struggles to engage my attention. All the time she kept up a short, shrill whistle, dropping at intervals to a harsh note, and appearing to utter these sounds without opening her beak.

Finding her efforts unavailing she would run close up to me, and flinging herself down, remain motionless with outspread wings, in the hope that I would desist from my search to pick her up. By her manœuvres she assisted me to find her nestlings and I soon saw two little pale yellow birds, spotted with black, together with an egg, on the bare ground, for there was no pretence at a nest. The two nestlings were perfectly helpless and unable to stand, which seems to indicate that some days must elapse before the young of this species can run.

57. *Pediocetes phasianellus campestris*. PRAIRIE SHARP-TAILED GROUSE.—Common. (Plate IX, Fig. 2.)

In the pairing season the Sharp-tailed Grouse indulge in an extraordinary 'play' which is called a 'chicken dance' and roughly may be said to take place every day, excepting during stormy or threatening weather, from about April 10 to May 10. In the spring of 1900 I had unusual opportunities for watching it, the grouse having chosen for their playground the further bank of the creek intersecting my ranch, which here sloped from a high steep cliff on the south to a level sage brush flat on the north. As the channel of the creek was deep it was possible by using great care to approach close to them without being observed, and on two occasions I got within twenty yards, being at one time only about six yards from some of the birds. Not until April 18 did I actually observe the grouse, although their dance was begun at least a week earlier, as could be told by their cooing, which was audible about a mile on a still day. There was an open space in the sage brush which was thick on the down creek or north side, and to this point they flew by twos and threes until twenty had assembled on the playground, not to mention the hidden spectators. The average time for the beginning of the dance was about 4.30 P. M., which continued until six or much later if there were many interruptions. What little I had previously seen and read had led me to suppose that the play of this grouse would be an excitable, confused performance very different from the regular evolutions actually witnessed, and which I have endeavored to set down here as accurately as possible. At this date (April 18) the ball is opened by a single cock making a run across the open space as fast as he can use his legs, the tail being inclined stiffly over the back, while the wings are dragged, so that a large white area is exposed behind. The vivid yellow supraciliary fringe is erected, and, all



FIG. 1. GREAT BLUE HERON.
Nine weeks old.



FIG. 2. NEST OF LONG-BILLED CURLEW.



FIG. 1. SHARP-TAILED GROUSE.

One of two that entered a wired-in 'garden patch' and believed themselves to be unable to escape.



FIG. 2. NEST OF MOURNING DOVE IN SAGE BRUSH ON PRAIRIE.

the feathers of the neck standing on end, a pink inflated sac is disclosed. At the same time the head is carried so low as almost to touch the ground, so that the bird is transformed in appearance and, as observed through binoculars at some distance, looks to be running backwards. He then returns at full speed when another cock comes forward towards him, both advancing slowly, with vibrating tails, to meet finally and stand drumming their quills in a trance with tightly closed eyes. After perhaps a minute one bird peeps at the other, and seeing him still enraptured, resumes an upright graceful carriage, anon stealing gently away. His companion is thus left foolishly posing at nothing, but presently he too awakes, and departs from the arena in a normal manner. Meanwhile the remaining cocks, one after another, take up the running till all have participated, but the end of each figure seems to be the same. Two birds squat flat on the ground with their beaks almost touching for about twenty minutes, and when they do this they are out of the dances for that day. As the grouse make their runs at intervals the play is spread over an hour and a half, but when this was at its height the small open space, about thirty yards in diameter, presented an indescribable scene. While three or four of the metamorphosed cocks might be 'running,' the pairs already formed would squat flat with outspread wings, and other cocks, facing each other, would drum in ecstasy, oblivious to their surroundings. At the same time an ardent suitor would now and again chase a hen across the playground until she leaped high in the air, upon which the pursuer would seem to forget her and make a 'run.' After watching for about an hour the hens too made little runs but displayed no air sacs. All this time the spectators of the dance, concealed by sage brush, kept up an incessant *coo, coo, coo*, as if to applaud. The proceedings were quite amicable throughout. I did not see the slightest inclination to fight on the part of the performers: on the contrary, if two cocks collided, as sometimes happened, they would squat in apologetic fashion. After upwards of an hour of running, posing and flopping, the dancers became exhausted, and were constrained to pant painfully, a result not to be wondered at, seeing that during the play period 90° in the shade was registered. The dance appears to terminate by some bird, either a late starter or one more vigorous than the rest, being unable to find a partner to respond to his run. Having assured himself of this, he utters a disgusted clucking, and all the grouse fly away at intervals as they complete their term of squatting.

On April 29 and 30 I again watched the play which was still being energetically carried on although the runs were, of course, fewer, the drumming with the tail louder, and the crouching process more prominent and prolonged; whereas earlier in the month only two or three pairs squatted, now seven couples nestled together as close as possible, and whenever a disengaged bird approached, one of the pair rose to drive it away with the regular chicken dance run. I concluded that these affectionate pairs were birds mated for nesting although no act of pairing was witnessed by

me. On the 30th, the grouse were put to flight three times, once accidentally by me and twice by a Marsh Hawk, but all flew back again to the same spot within a few minutes. When suspicious, warning clucks from the onlookers stopped the play, and the grouse drew themselves to their full height, resuming their natural trim appearance. Under these circumstances there is no difference between the sexes, the pink sac characterising the males being invisible, which increases the difficulty of distinguishing them and making accurate observation. After days of watching it was evident that the birds, though running at each other like game cocks, never fought, while several males (presumably young) remained passive spectators. The hens to some extent participated in the dance. Subsequent to the above observations I watched the grouse closely to discover if they really paired, and concluded that they do so in an irregular manner. The cocks forsake the hens as soon as incubation commences, and, lending no assistance in rearing the young, may be met with in small parties of about half a dozen.

58. *Centrocercus urophasianus*. SAGE GROUSE.—Abundant on the sage plains of both counties. Formerly nested upon my ranch in Custer County, and in 1902 I tried to rear some by setting two clutches of eggs under hens. Out of fourteen birds hatched, only two reached maturity. To the best of my knowledge Sage Grouse have never been reared in captivity before. The strip of country in Dawson County enclosed by the Musselshell, Yellowstone, and Missouri Rivers, and extending westward from the junction of the two latter, is a chief haunt of Sage Grouse, several localities, such as 'Sage Hen Springs' and 'Sage Hen Creek,' being thus named on account of the abundance of these birds. During the first half of April the males repair to a regular 'playground,' but it is a difficult matter to observe their love antics on account of the encompassing sage. However, on April 7, 1896, my wife and I happened to ride close upon a number of old cocks, near our ranch, which were engaged with their play in a small open space. They never fought nor threatened each other but strutted or paraded before some hens concealed in the sage bushes, and were entirely occupied with a most grotesque rivalry. By ruffling up all their feathers, spreading their tails, and dragging their wings along the ground they looked much larger than they really were, while they produced a rattling sound with their quills after the manner of turkey-cocks and peafowl. At the same time they continuously uttered a kind of whistling challenge, and distending their necks by means of their air sacks erected an enormous white ruff. As the playground was small the eight or nine cocks upon it were in imminent danger of a collision, but for the ten minutes that we watched them, this did not take place, nor were there any moments of ecstatic oblivion for which some game birds are famous. As will be seen from the above their courtship is rather a display than a 'play,' thus differing from the performance of the Sharp-tailed Grouse, which is described under that bird.

59. **Zenaidura macroura.** MOURNING DOVE.— Abundant, arriving about May 1 and usually leaving first week in October. Nests indifferently on the ground or on trees. (Plate IX, Fig. 2.) A Mourning Dove hard pressed by a hawk took refuge in Mr. Dan Bowman's buggy as he was driving along.

60. **Cathartes aura.** TURKEY VULTURE.— Rare. Mr. Dan Bowman informs me that during the fall of 1883 Turkey Buzzards were incredibly numerous in eastern Montana, and roosted in thousands on the Powder River in the vicinity of his ranch. The birds constructed their nests in the cottonwood trees along the river, the stench from these rookeries being so great that it was almost impossible to approach. He tells me that the young were fed by regurgitation. Without doubt it was the prodigious slaughter of bison (*Bison bison*) which attracted the birds, for while the southern herd (estimated at four millions) had already ceased to exist, the northern herd (containing about a million and a half) was wiped out in 1883.¹ From this time on, the Turkey Buzzards have become more and more scarce until in the present year (1906) they must be regarded as accidental wanderers. Mr. D. Bowman fixes the fall of 1887 as the date when they ceased to nest here — a colony of about 75 birds then occupying the pines of the East Powder River divide — but Mr. J. H. Price, who lives in this district, has observed young birds since.

I take the following records of Turkey Buzzards from my diaries:—

August, 1892, 4 seen gyrating above Tongue River, Montana.

April 10, 1893, 5 on my ranch in Custer County.

July 29, 1894, 6 near Fallon at a dead calf; two so gorged as to be unable to fly.

October, 1896, 1 shot by Mr. Walter Lindsay at carcass of horse on Mizpah Creek.

June 12, 1898, 1 remained on my ranch in Custer County for three days.

April 18, 1906, 2. A Turkey Vulture arrived on my ranch in Dawson County and was afterwards joined by a second, when the pair must have nested in the adjoining bad land as they remained there during the summer.

61. **Circus hudsonius.** MARSH HAWK.— The commonest hawk here with exception of the Desert Sparrow Hawk. Males arrive about the end of March and females somewhat later, all leaving again in the middle of October. For many years a pair nested below my ranch house in Custer County, and always received strict protection. This bird is the common 'Henhawk' of eastern Montana and is the most pertinacious of any in attacks on the poultry yard. Young Marsh Hawks weighing about ten ounces will endeavor to disable a chicken weighing a pound, by pecking it on the head and striking on the back at the same time with the feet, their strong wings enabling them to keep directly above it no matter where the prey may run. Birds of the year, through inexperience, are the most

¹ See 'The Extirpation of the American Bison,' Hornaday, 1889.

daring, and my wife has taken a screaming pullet from the claws of one of them which found the prize too heavy to lift.

62. ***Accipiter velox***. SHARP-SHINNED HAWK.—Tolerably common summer visitor and undoubtedly breeds, although I have not found its nest. For its size it is astonishingly bold. During September, 1904, a Sharp-shinned Hawk frequented my ranch in Dawson County and kept all the birds away which were accustomed to come to the cattle troughs. It would dash at the flocks of Crossbills and the other birds with tremendous velocity, scattering them in all directions. We have even seen the little hawk strike at some fowls close to the house, which weighed four pounds, sending them screeching and flying for shelter. It would stoop at Flickers, following them into trees, and strike the trunk of a pine simultaneously with and beside the screaming fugitive without making any attempt to seize it. I therefore came to the conclusion that these and previous attacks on the poultry were made purely for sport.

63. ***Accipiter cooperi***. COOPER'S HAWK.—Rare. In sixteen years I have only seen this hawk three times. At my ranch in Custer County, one, on September 13, 1893. At my ranch in Dawson County, one, which flew out of a belt of pines on April 30, 1903. At the last named place on August 7, 1905, the loud screaming of a flock of Piñon Jays attracted my attention to a Cooper's Hawk by which they were menaced.

64. ***Accipiter atricapillus***. AMERICAN GOSHAWK.—An irregular fall migrant in both counties. According to my records it is of more common occurrence than Cooper's Hawk. I never saw a Goshawk myself until September 22, 1903, but Mr. J. H. Price (who used to go hawking with one in England), has seen the bird several times during the last seventeen years when shooting ducks in the fall. On October 18, 1905, Mr. Price was after ducks in a snowstorm at his ranch near Knowlton when a Goshawk seized, and carried past him, a shrieking Blue-winged Teal, just as he was on the point of firing at the latter's companions. The reports caused the hawk to drop the teal into some buck brush but it remained near and, as usual, was of great assistance to the shooter. With a hawk in the neighborhood, ducks rise at close range and are afraid to go clean away. Shortly after the above incident Mr. M. M. Archdale was shooting ducks on his ranch, which adjoins that of Mr. Price, when the same or a similar hawk compelled a flock of teal to return twice to the water from which they had been originally started. He thus made a good bag. On November 19, 1905, my wife saw a Goshawk sitting on the ground watching the poultry at our ranch in Dawson County. On this occasion the hawk did no harm.

During the end of September and beginning of October, 1906, however, a Goshawk frequented this ranch, and killed four pure bred Plymouth Rocks of which we kept a number in two different places. The hawk appeared to lurk on a pine-covered hill about half a mile away, in full view of the windows, from whence, if the coast was clear, it swept across

the creek and alighted in the immediate vicinity of the fowls. The latter were well accustomed to watch for hawks, and any large bird seen in the sky would send them scurrying for shelter. The Goshawk, however, invariably flew so low, that, like the prowling coyote, it was unperceived until the moment of the fatal dash. The fowls became afraid in consequence to leave the immediate vicinity of their houses, and on October 4, the hawk killed a pet white hen at the fowlhouse door, which made its third victim. Despite our rule never to kill wild birds on the ranch, my wife, now that her pet hen was slain, desired to shoot its murderer. On my part I wished to spare this splendid but too audacious hawk, which, although most wary at other times, showed extreme reluctance to leave its prey. As the captured fowls weighed upwards of five pounds each it could not carry them off but ate the back or breast of its victims where they lay. A few days after the white hen episode the Goshawk killed a very fine cockerel and was observed by me almost in the act. To escape its enemy the terrified fowl had run under some young cedars which would have saved it from a Prairie Falcon or Peregrine, but were no protection against the relentless Goshawk which followed and seized its prey within the cover. So great was the strength of this cockerel that it ran an uphill distance of fifteen paces towards the fowl house, burdened with the clinging hawk, ere it fell dead. The Goshawk kills its prey by constriction of the feet, and it is quite certain that the squeeze combined with the shock is rapidly fatal to fowls. On this occasion the hawk must have been unusually hungry, for when deprived of its booty, it alighted in a cedar nearby to watch the proceedings. Returning with a gun I carefully stalked the bird and fired two ineffectual shots as it flew away. The hawk then rose to a great height and, after flying some distance, boldly returned to its haunt on the pine-covered hill above mentioned. Early next morning I observed the bird again fly to the spot where the cockerel had been killed and managed to disable it by a long shot which apparently fractured the ulna of the left wing.

Not being severely wounded the hawk managed to flap into a cedar but was here captured and placed in an empty barn. When handled (of course with thick gloves) the Goshawk from the first made no sort of attempt to show fight, but only looked at me reproachfully with its orange eyes. The plumage and size (which equals the largest dimensions given) determine it to be an adult female. On October 18, 1906, a second Goshawk appeared, resembling the captive in all respects, but did no damage until October 27 when it was surprised in the act of eating a large hen close by the fowl house. The victim was first struck about fifteen yards behind the building but had run this distance down hill dragging the hawk. The evening was exceedingly calm, and the hawk having gorged itself on the entire breast of the fowl in a place walled in by low hills found great difficulty in rising above them. Indeed I think I could have thrown my stick and killed the bird as it was flapping awkwardly "for want of air to

waft her." In thirty-six hours the hawk had returned to the fowls, but, being anxious to avoid the necessity for injuring another of these fine birds, we shut up the poultry with the result that in a few days the Goshawk left in disgust. (Plate X.)

65. *Buteo borealis calurus*. WESTERN RED-TAIL.—Common. In arrival and departure this handsome hawk coincides with *B. swainsoni*, and it may therefore be said to reside here only for three months, the time necessary to rear its progeny. Being seldom killed, this hawk is quite a common bird, breeding throughout both counties, when it chooses an inaccessible cottonwood, the nest being placed as high as possible while the thick foliage renders it all but invisible. I have thus been able to follow the life history of these birds, and one pair nested for several years about two miles north of my ranch in Custer County. I have never known these hawks to have more than two nestlings and, in the case of two nests at least, investigation showed that these were fed upon Meadowlarks, cotton-tail rabbits, and snakes, provided chiefly by the male. Mr. Dan Bowman and Mr. H. Tusler informed me that they took rattlesnakes but in any case, no remains of poultry nor game birds were even found.

66. *Buteo borealis harlani*. HARLAN'S HAWK.—Rare. A hawk of this species was obtained in North Dakota in the spring of 1890 and identified by Drs. P. L. Selater and Bowdler Sharpe. It is now in the British Museum. I have since seen a similar hawk in Custer County, and one in Dawson County on August 25, 1905.

67. *Buteo swainsoni*. SWAINSON'S HAWK.—Common. My first introduction to these hawks was in April, 1890, when an extraordinary invasion of them — probably nearly two thousand birds — alighted around the ranch where I was staying on the west bank of the Powder River. They came in the afternoon from a southerly direction and, for a time at least, followed the downward course of the river, as a neighbor living above reported the enormous hawk army which flew over. The wide river bottom where the ranch is situated is thickly overgrown with cottonwoods, and the fence of the saddle horse pasture all but joins the buildings. When the last birds had arrived, the trees inside this pasture were simply black with them; but as there appeared to be numbers beyond, I saddled my horse in order to reconnoitre further. This precaution was necessary on account of the Texan cattle herds outside the fence, which were quite unaccustomed to seeing a pedestrian, and would either stampede or follow him about with menacing demonstrations. Having ridden round the fence I found that not only were the trees filled with clusters of buzzards, but that the ground below was covered with them sitting in rows among the cattle, the sight surpassing anything I had hitherto seen in bird life. All were obviously worn out and appeared asleep; but those on the ground, if closely approached, were not too tired to fly up and join their comrades in the trees. In color, as far as could be determined, these buzzards exhibited every shade of brown while some inclined to a more chestnut hue.

Others again appeared black, or almost black, showing the melanistic form, and a very few individuals were a uniform lavender, or bluish ash, like the male Marsh Hawk (*Circus hudsonius*). I have never obtained but two birds in this rare dress, but I feel satisfied it is the one ultimately assumed by the adult male, which through a long succession of browns moults into a mature plumage of lavender with white throat spot. Of this cinereous phase I can find no reference in ornithological works, where the old males are invariably, but I believe quite erroneously, described as brown. The immature birds, both male and female of the same age, also exhibit endless difference in coloration, and the attempt to trace their progress to maturity has perplexed even so eminent an authority as Dr. R. Bowdler Sharpe who states (*in lit.*): "The changes of plumage in these buzzards are terribly difficult to follow." I returned to the ranch for a 250 Holland rook-rifle and walking out in the pasture killed twelve of the Buzzards, at the same time restraining the cowboys from indulging in a general practice with their winchesters. The small crack of the rook rifle, and the headlong fall of a bird from its perch, had no effect upon its companions, but I believe a shot gun would have caused them all to take wing further on. In a letter published in 'The Ibis' (Oct., 1891, pp. 623-625), I gave the estimated number of buzzards at about a thousand; but it became obvious afterwards that two thousand would have been nearer the true count, as twenty trees each containing fifty birds give a total of a thousand without including all those on the ground and in more distant cottonwoods. I may add that my wife and Mr. Coggsall (owner of the ranch), who were present during the flight only saw the birds in the saddle horse pasture, and computed their number at a thousand within the enclosure. Six out of the twelve buzzards were sent to Dr. P. L. Selater and are now in the Natural History Branch of the British Museum. On the following morning all the buzzards had vanished as completely as the Assyrian host, and such an opportunity is never likely to occur twice to any one observer, although I have since seen other small migrations flying over at a considerable height — one flock over the town of Miles City. Some members of the flocks which arrive in April remain here to nest in June, the young being hatched out early in July, and are ready to take wing at the end of that month. As soon as this happens all the buzzards, fortunately for them, leave this part of the country.

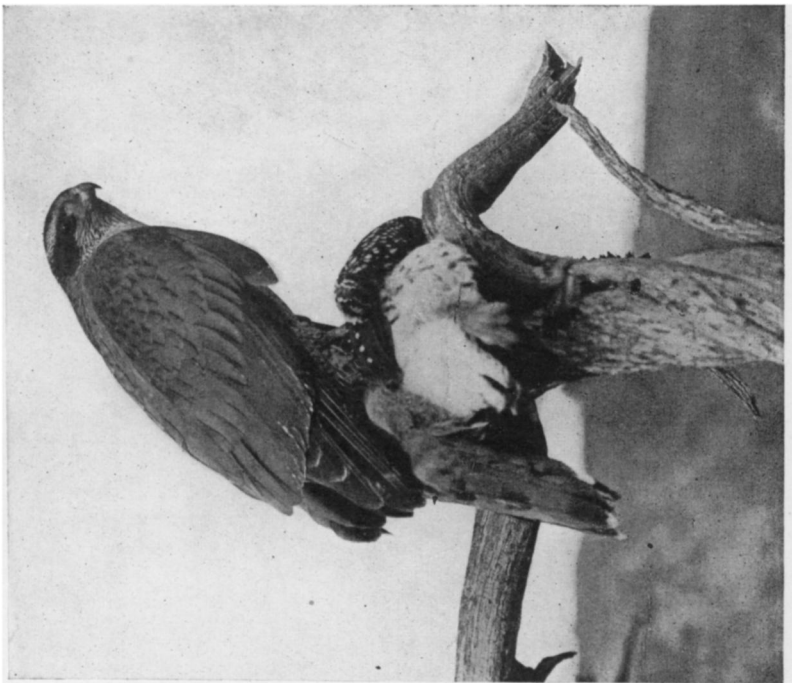
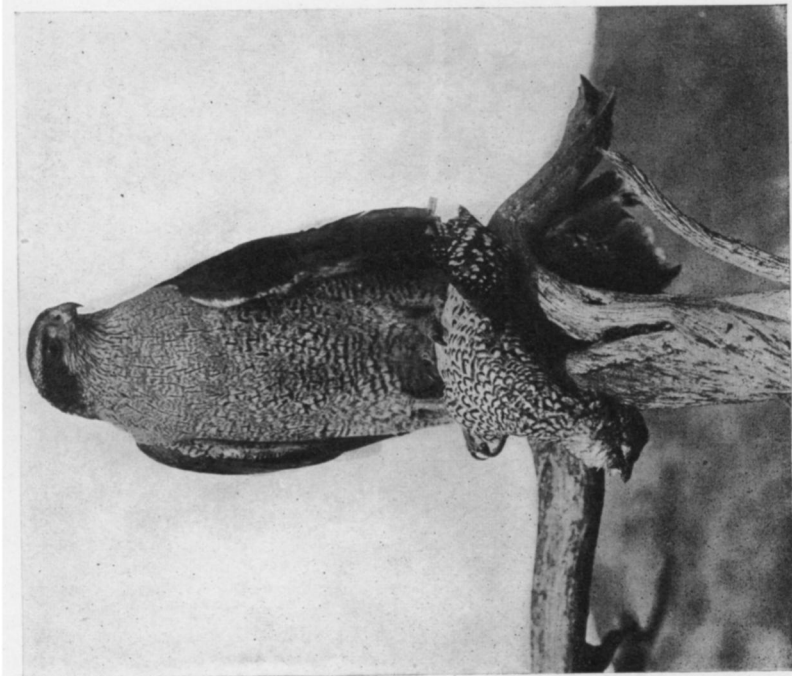
68. **Archibuteo lagopus sancti-johannis.** ROUGH-LEGGED HAWK.— Formerly a common winter resident but, like the Golden Eagle, is becoming very scarce from traps and poison put out for wolves. Also observed in spring and fall. I have seen many specimens of these hawks in Montana which perished in the above mentioned manner. Some were indistinguishable from three in my collection of Orkney birds while others were again quite different. Here, prairie dogs appear to be the favorite food of this species and the next, so that both should be strictly protected. I believe that a few pairs breed in the badlands. On May 14, 1898, I discovered

what I supposed to be a nest of this species, as a Rough-legged Hawk was frightened from the spot by my grayhounds which had been chasing a coyote. When I returned on another day the nest was deserted and I took the single egg.

69. *Archibuteo ferrugineus*. FERRUGINOUS ROUGH-LEG. — Resident but never common. Appears to be larger than the last named. A female of this species was caught in a wolf trap near my ranch at Terry which I had preserved. Another female was shot from her nest on a badland butte near the same place by A. Bright on May 9, 1899. I visited this eyrie, took the two eggs, and also saw the male bird. In May, 1905, another pair nested on a cottonwood about six miles from my ranch in Dawson County but a hungry shepherd boiled and ate the three eggs. (Plate XII, Fig. 1.)

70. *Aquila chrysaetos*. GOLDEN EAGLE. — Formerly very common but has become almost exterminated as a result of the high bounties placed on wolves. In the early years of 1890, eagles had not learned to associate danger with the presence of man and their tameness was indeed remarkable. For three years, 1903, -04, -05, a pair of Golden Eagles nested near my ranch in Dawson County.¹ The female of this pair met a melancholy fate in attempting to carry off what was beyond her strength. All the shepherds had received strict injunctions from their employers not to interfere with the eagles, but in this case the patience of one man was tried too far. He narrated how from some distance away he saw an eagle stoop at one of the dogs, and hang above it as raptorial birds are wont to do when attacking ground game. The dog, not paralyzed like a hare, at the proximity of the great bird, ran towards its master, when the hovering and expectant eagle fixed one foot on each side of the collie's throat and endeavored to bear aloft the shrieking animal. The shepherd described how during the few minutes that he was running toward the struggling pair and trying, incidentally, to find a stick, the eagle made frantic efforts to carry away the dog, which seemed unable, when clutched in this manner, to make any attempt to free itself. According to the story, the bird was flying all the time, in any case flapping its wings, and, although prevented from rising by the weight of the quarry, it was able to drag the helpless dog to and fro. The eagle had, in fact, too good a hold for her own safety and was ignominiously killed by blows on the head with a stick. This event happened at the end of March when the male found another mate, and with her made a new eyrie in a different situation. The dog, which weighed about thirty pounds, afterwards recovered, though rather badly mauled by the eagle's claws. A pair of Golden Eagles have also nested in a tall pine tree for five years (1902, -03, -04, -05, -06) at Mr. J. H. Price's ranch near Knowlton, Custer County, and have been strictly protected. Two eggs taken from this eyrie are the handsomest I have ever seen.

¹ See Cameron, Nesting of the Golden Eagle in Montana. Auk, Vol. XXII, No. 2, April 1905.



GOSHAWK, WITH A SHARP-TAILED GROUSE.



FIG. 1. SPARROW HAWK AT NESTING TREE.



FIG. 2. SPARROW HAWK WITH DEER MOUSE.



FIG. 1. NEST OF FERRUGINOUS ROUGH-LEG ON A BADLAND BUTTE.



FIG. 2. YOUNG WESTERN HORNED OWLS.

71. ***Haliaeetus leucocephalus***. BALD EAGLE.—Occasional visitor. Formerly bred here. A pair of Bald Eagles were found nesting in a high pine on the head of Horse Creek by Mr. Dan Bowman in 1893. Unfortunately the female was killed by a bullet as she sat on the edge of her nest, an immense platform of sticks. Mr. Dan Bowman, who was one of the first settlers in this part of Montana, has supplied the following further information. In the early eighties Bald Eagles, while not common, were frequently seen on the Powder River. In 1883, a pair had a nest in a cottonwood tree on the east side about two miles above the rocky ford at the mouth of Coal Creek. Bowman, being camped nearly opposite, could observe the birds, and once saw a lamb carried to the eaglets by one of the parents. In 1885 he again saw an adult Bald Eagle perched on a rock, about two miles north of this nesting site, and approached to within fifty yards. A few days after one was shot by a Mexican, working for Frank Archdale, when Bowman identified it beyond a doubt by the tail and shanks. He has also twice seen dead Bald Eagles on the Powder River, which had died from eating poisoned bait put out for wolves. Mr. J. H. Price has also seen Bald Eagles at different dates, which were probably the same birds observed by Mr. Bowman who lives in the same locality. I have twice seen an adult Bald Eagle on my ranch in Dawson County, — March 17, and November 6, 1905. On the second occasion I was riding up a thinly wooded hill, when the splendid bird floated over me, unsuspectingly, just clearing the straggling pines.

72. ***Falco mexicanus***. PRAIRIE FALCON.—Tolerably common resident. For two summers, 1905–06, and probably for many years before I discovered them, a pair of Prairie Falcons have nested half way up one of the highest buttes in the picturesque badlands at the mouth of Cottonwood Creek in Dawson County. At this place there is a sheer wall of peculiar white sandrock which breaks away very easily and disintegrates into a substance as fine as chalk. The cliff contains several holes and the falcon places her eggs upon the white powdery sand in the largest of these under a flat projecting rock. The eggs may be seen either by ascending from below with the aid of a rope and steps cut with a hatchet, or from above by descending the butte and lying full length on the flat rock already mentioned. The latter method, however, requires a cool head. In my experience there are no birds so shy as these, and none whose nest is so difficult to find, or who desert it so easily. In 1906, at this particular eyrie, two eggs were laid by May 10, but the birds carefully avoided the place if a human being was anywhere in the vicinity. When the nesting site is approached, the falcons at first 'ring up,' uttering shrill chattering cries, but should the intruder remain stationary, they endeavor to mislead him as to its true position by circling above the top of another high butte, both wailing like cats. Should the eyrie be actually visited, the birds disappear altogether. For fear that the female might forsake her eggs in the nest above referred to, the cavity containing them was merely looked

into from a yard away at the above date and not visited again until June 15. They were nevertheless found to be deserted. The falcons had chosen another site in a still more inaccessible cliff above the river where they were left undisturbed. The Prairie Falcon is very bold in its attacks upon game birds and poultry, seizing them either on the ground or on the wing indifferently. I have known it to prey upon Mallards, both kinds of Teal, Sharp-tailed Grouse, and domestic fowls. In attacking full grown hens the falcon suddenly checks its stoop about a yard above the victim over which it hovers before making the final dash. Meanwhile the shrieking fowl runs wildly about and there is often time to scare away the freebooter which then mounts with incredible rapidity. At the time of their migration Green-winged Teal seem to be the favorite quarry, and Mr. J. H. Price has twice shot one of these ducks from a flock pursued by a Prairie Falcon before it had made its stoop. This dashing marauder attends upon the Teal as they move up or down the creeks, and in winter is the relentless persecutor of the Sharp-tailed Grouse. I have even seen the falcon watching on a pine for the grouse to emerge from the snow at its foot. On February 7, 1895, an adult Prairie Falcon (now in my possession) was shot by a neighbor, J. C. Braley, at Terry, under peculiar circumstances. His wife was cooking beetroot and threw out the refuse on the snow, when the falcon, passing overhead, stooped to the beetroot which it probably mistook for raw meat.

On September 21, 1904, at our ranch in Dawson County, my wife and I watched a Prairie Falcon in the act of carrying off a Meadowlark which was screaming and struggling in its talons. As the falcon rose level with the hill-tops, a Golden Eagle sailed majestically over in close proximity to it, thereby appearing to fluster the other which allowed its victim to escape. Old birds of *F. mexicanus* may always be distinguished from the young by their yellow feet and legs, as in immature examples these are slate color.

73. **Falco peregrinus anatum.** DUCK HAWK.—A scarce resident. In 1905, there was an eyrie of peregrines not far from the Terry ferry boat crossing. I did not see the eggs, which were laid in an inaccessible fissure about six feet below the overhanging edge of a cliff which towers above the Yellowstone. By crawling along a projecting spur of gumbo it was possible to obtain a good view of the rock face and of the falcon as she flew from beneath, but nothing else could be made out except the excrement of the birds. It would appear that neither the Duck Hawk nor the Prairie Falcon make any pretence at a nest here, the eggs being deposited in the hollows which are often found excavated in the vertical face of hard sandrock.

74. **Falco columbarius.** PIGEON HAWK.—Tolerably common fall migrant. Since 1899 I have many notes of this hawk, but perhaps some of them would properly apply to the next species. I saw five Pigeon Hawks together twice, on August 20, 1899, and July 21, 1904, at which time they flew low over my buggy. I have also twice seen a Pigeon

Hawk dash after a bird (the first time a pigeon the second time a small bird) into an outbuilding right through our astonished party. On September 5, 1899, I witnessed an exciting chase by one of these hawks after an Arkansas Kingbird, which, however, evaded its stoop every time and finally found safety in the brush. My wife has seen several of these hawks sitting on the telegraph wires at Blatchford, and Mr. J. H. Price has also observed them in this locality.

75. **Falco richardsoni**. RICHARDSON'S MERLIN.—Rare migrant. During August, 1904, a hawk of this species came several times to drink at the cattle troughs on my ranch in Dawson County. Captain Platte M. Thorne mentions two specimens which he obtained in the fall of 1889.

76. **Falco sparverius phalcena**. DESERT SPARROW HAWK.—Summer visitor, everywhere abundant. Commonest hawk in eastern Montana. Arrives about the end of March, but all the birds are gone by the middle of October. As a rule the Sparrow Hawk lays her eggs in deserted woodpecker holes but on one occasion she appropriated the nesting site of a flicker after the latter had begun to lay. (Plate XI.)

Upon first arrival Sparrow Hawks are seen to stoop boldly at small birds on the ground, but, as far as my observation goes, they seldom take feathered prey when grasshoppers are plentiful. They hawk for the latter in the early morning, or just before sunset, but do no foraging in the heat of the day when the grasshoppers are most in evidence. About twelve large flying locusts are required to supply a Sparrow Hawk with a meal; as these birds also kill numbers of mice, they are most beneficial and should be strictly protected. The head of the grasshopper is first plucked off and swallowed, the wings and inside are next thrown away, when the bird eats the remainder. I have never known Sparrow Hawks take the chicks either of domestic fowls or of the Sharp-tailed Grouse, even when ample opportunity has been afforded them. Mrs. Gifford of Fallon shot a Sparrow Hawk which arose from among her chickens with, as she thought, one of them in its claws. The poor bird's victim, however, proved to be an English Sparrow. When Sparrow Hawks chase large birds, such as Doves and Meadowlarks, it would seem to be chiefly in play. They are very bold in attacking the different species of Buteo and Marsh Hawks which may approach their nesting site.

77. **Asio wilsonianus**. AMERICAN LONG-EARED OWL.—Resident. Not common. On October 11, 1895, one (female) was shot by the cook of the L. U. cattle outfit on Little Dry Creek, Dawson County, who gave it to me. During October, 1899, a family of two old and five young owls came every night to my haystacks in search of mice at my ranch near Terry, Custer County. They were very tame, and if I rode up after dusk would playfully swoop at my horse. On May 11, 1905, a Long-eared Owl was flushed from a cedar patch at my ranch in Dawson County, and a pair of the birds frequented the same locality in April, 1906. In May, 1905, a pair nested in the hollow of a high cottonwood at the Yellow-

stone ferry crossing at Terry. On June 1, two nearly full-feathered young could be seen sitting in the tree, but as they were the objects of much attention the parents removed them on the night of the second.

Mr. J. H. Price is familiar with this owl in his locality (Knowlton), and informs me that several birds of this species frequented Mr. G. M. Kirwan's ranch, on Tongue River, during the winter of 1906-07.

In fall and winter these owls occupy cavities in the high cut banks of the badlands; Messrs. Archdale found a Long-eared Owl frozen to death in a badland hole. When this owl is in flight, a brown spot shows conspicuously on the buff lining of the wings underneath the primary bases.

78. *Asio accipitrinus*. SHORT-EARED OWL.—Erratic winter visitor. Tolerably common some winters, in others not observed. These owls lie very close, and are flushed from sage brush precisely as from the heather in the Orkney Isles where they were very common. In either case, they are difficult to see without a dog. On January 10, 1902, my wife picked up a dead Short-eared Owl, in good condition, by the Yellowstone. It must have been frozen to death in the extreme cold of the previous December, as there was no other way to account for its demise. A pair of these owls wintered on my ranch in Dawson County, during 1902-03 and were last seen on April 16. May 7 is the latest date on which I have observed this species.

79. *Megascops asio maxwelliæ*. ROCKY MOUNTAIN SCREECH OWL.—Captain Thorne mentions three seen by him. I have not observed this owl here.

80. *Bubo virginianus pallescens*. WESTERN HORNED OWL.—Common. A resident and predominant bird, nocturnal in habit, and to be seen or heard at all seasons wherever there is a tree for it to rest in. Nests indifferently in the river valleys or pine hills. A pair of Hoot Owls reared their young on my ranch in Custer County for many years, repairing the same nest, often but a storm swept fragment, each spring in the same box-elder tree. Almost before winter is fairly over (about third week of March) the female begins to lay the two or three white eggs upon which for about three weeks thereafter, she will sit alternately with the male, who shares the duties of incubation with his spouse. While one of the pair is on the nest, the other sits silent in a tree, its plumage assimilating so closely to the bark, whether box elder or willow, as to render the bird invisible even when the tree is leafless. The young are hatched successively from about the middle of April onwards, and the first hatched nestling may precede the latest arrival by an interval of a week. By the second week in June they can fly. So pugnacious are the owlets that the strongest finally drives the others from the nest to occupy a branch near, where they pretend to fight but avoid the real issue by twirling round and hanging head downwards by their scansorial feet. Hoot Owls have an ill repute as chicken stealers and are shot at sight on neighboring ranches; but the fact that their raids are not commenced till dusk serves generally to protect them.

They were observed to kill half grown turkeys belonging to J. C. Braley, of Terry, in the summer of 1902. The season's menu for our own particular owlets consisted, however, mainly of cotton-tail rabbits, two of which have been seen in the nest at one time. I once saw a young jack rabbit in the nest. (Plate XII, Fig. 2.)

81. *Nyctea nyctea*. SNOWY OWL.—Erratic winter visitor. In some years abundant; in others not seen. During the winter of 1889–90 there was a regular invasion of Snowy Owls, and J. D. Allen, taxidermist, Mandan, N. D., had five hundred sent to him for preservation, which I examined in May, 1890. During the same winter Captain Thorne has records of eighteen in his locality (Fort Keogh) alone. On my trip to the Missouri Brakes from Miles City, in April, 1890, these owls were commonly seen all along the route traversed. I have frequently met with them since in all parts of both counties but never again in such numbers. Snowy Owls alight indifferently on a tree, on a fence, or on the ground, and, in the latter situation, allow a very close approach by a horseman before taking wing. Mr. W. S. Haley informed me that a pair of these owls remained over two summers on Pine Creek, Custer County, and frequently flew into the hollow of a dead cottonwood where they were supposed to have a nest. It is unfortunate that he did not further investigate.

82. *Speotyto cunicularia hypogæa*. BURROWING OWL.—Common resident. In summer these owls have a habit of making short flights along the wire fences in front of horses, perching on the wires until approached quite close.

83. *Clauvidium gnoma*. PYGMY OWL.—Rare. A specimen of this owl was obtained in the timber on Tongue River at Miles City by a workman in Moran's saddle shop, where I saw it mounted on January 4, 1895. It was afterwards presented by Mr. Moran to Mr. J. E. Rickards, governor of the State of Montana.

84. *Coccyzus erythrophthalmus*. BLACK-BILLED CUCKOO.—Rare summer visitor, arriving about the end of May. About two pairs nested regularly upon my ranch in Custer County, and the groves resounded with their cries. Mr. J. H. Price, who has a thorough knowledge of Custer County, tells me he never heard them elsewhere. I have heard cuckoos, however, on Ten Mile Creek, ten miles distant, where exactly similar conditions prevail. (See introduction.) In June, 1900, a pair of cuckoos chose the center of a choke cherry for their nest, which was entirely concealed from view by festoons of flowering clematis enveloping the bush. On June 13, when I first discovered this beautiful nest it contained six blue eggs, but unfortunately five young Marsh Hawks were hatched out at the same date on the creek below. On June 19, five nestling cuckoos were hatched but had fallen a prey to the Marsh Hawks by the end of the month.

85. *Ceryle alcyon*. BELTED KINGFISHER.—Not common. Summer visitor to Tongue River, Powder River, and the Yellowstone. Mr. Dan Bowman informed me (*in lit.*) June 4, 1905, that a pair were nesting on

Powder River. On July 31, 1905, when observing a heronry on an island of the Yellowstone, in Dawson County, a kingfisher flew to the island and was apparently one of a pair nesting there. On September 21, 1906, I saw a kingfisher take a fish from Seven Mile Creek (Glendive).

86. **Dryobates villosus.** HAIRY WOODPECKER.—Tolerably common. Must breed in the pine hills, as it is found there all the year round. On Cedar Creek, which runs into the Yellowstone, near Glendive, its short sharp screech and flight in loops attracted my attention nearly every day when hunting deer. According to Mr. Jenkins, this form is *D. v. monticola*. (See Jenkins's 'Variation in the Hairy Woodpecker,' Auk, Vol. XXIII, p. 168.)

87. **Dryobates pubescens oreocæus.** BATCHELDER'S WOODPECKER.—Tolerably common. Resident. Must breed in the pine hills. This woodpecker is much in evidence during winter on cedar fence posts, in which it bores numerous holes searching for food under the bark.

88. **Ceophlæus pileatus.** PILEATED WOODPECKER.—Rare. One seen April 25, 1894; another August 12, 1898.

89. **Melanerpes erythrocephalus.** RED-HEADED WOODPECKER.—Abundant. Commonest woodpecker here, nesting indifferently in river valleys or pine hills. Arrives about middle of May, leaving about middle of September. A pair which came regularly to my water troughs in Dawson County, during August, 1904, were accompanied by only a single young one. When a hawk appeared they made an extraordinary commotion, and others of the brood might have been taken by hawks. In June, 1905, three pairs of Red-headed Woodpeckers nested in small holes of high cottonwood branches close to the ferryman's house at Terry, and many pairs used the holes in dead pines on my ranch (Dawson County) and vicinity for the same purpose.

90. **Colaptes auratus.** FLICKER.—Common. Breeds in pine hills or river valleys indifferently. Nested on both my ranches.

91. **Colaptes cafer collaris.** RED-SHAFTED FLICKER.—Common. Captain Thorne sent twenty-five skins to Dr. J. A. Allen, American Museum of Natural History, who replied as follows: "The series as a whole is one of special interest, the specimens all coming from localities within the range of the interbreeding of *C. auratus* and *C. cafer*. There is not a specimen in the whole series that is strictly *C. cafer*, though several approach true *cafer* very strongly. The greater part are much more *cafer* than *auratus*. In a few the characters of the two species are about equally represented. In one or two the *auratus* characters prevail. No two specimens are quite alike, while the combination of characters is often peculiar and very interesting."

(To be continued.)